

No.

200500192



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Nickerson-Zwaan

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC FURNISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

'NIZ 44-4703'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this fifth day of June, in the year two thousand and eight.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

RAO 11/28/01

1. NAME OF OWNER NICKERSON-ZWAAN		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME NIZ 44-4703		3. VARIETY NAME NIZ 44-4703 44-4703	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) P.O. BOX 228 4920AA MADE THE NETHERLANDS		5. TELEPHONE (include area code) 31.162.690.945		FOR OFFICIAL USE ONLY PVPO NUMBER 200500192 FILING DATE March 30, 2005	
		6. FAX (include area code) 31.162.680.970			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) CORPORATION		8. IF INCORPORATED, GIVE STATE OF INCORPORATION		9. DATE OF INCORPORATION 5/19/1980	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) VILMORIN INC. FRANCISCO TIRADO 2551 N.DRAGOON ST. TUCSON, AZ 85745				FILING AND EXAMINATION FEES: * 3652 - DATE 3/30/2005 CERTIFICATION FEE: * 768.00 DATE 1/23/08	
11. TELEPHONE (include area code) (520) 884-0011		12. FAX (include area code) (520) 884-5102		13. E-MAIL VILMOFT@AOL.COM	
14. CROP KIND (Common Name) LETTUCE GREEN LEAF		16. FAMILY NAME (Botanical) COMPOSITAE		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP LACTUCA SATIVA L.		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(e) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)				21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)				22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)					

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER 		SIGNATURE OF OWNER 	
NAME (Please print or type) MEITZELAAR		NAME (Please print or type) MEITZELAAR	
CAPACITY OR TITLE DIRECTOR	DATE	CAPACITY OR TITLE DIRECTOR	DATE

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvpindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

1ST SALES IN THE US THE 04/01/04

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit A
Origin and Breeding History
Lettuce, 44-4703 niz

RAD
12/27/07

Genealogy / Breeding Method / Selection Criteria

	1995	Barendrecht, Holland; initial cross created in glasshouse (Harvest #956511)
F1		
↓		
	1995	Barendrecht, Holland; glasshouse (Harvest #9911576)
F2		
↓		
	1996	Barendrecht, Holland; field trial (Harvest #964332)
F3		
		F3 seed tested for Downy Mildew factor DM 14
↓		
	1997	Barendrecht, Holland; field trial (Harvest #972508)
F4		
↓		
	1998	Barendrecht, Holland; field trial (Harvest #984567)
F5		
		F5 seed tested for Downy Mildew factor DM 14
↓		
	1999	Barendrecht, Holland; field trial (Harvest #990450)
F6	1999	Mass created = 44-4703

44-4703 was derived via pedigree method from a cross made by Nickerson Zwaan breeders in Holland. The specific parents that were used to create the segregating lines were a heterozygous breeding line from Nickerson Zwaan (#956511) and Monet which is a glasshouse leaf lettuce variety from Royal Sluis containing the Downy Mildew resistance factor DM 14.

The F2 seed crop was grown by Nickerson Zwaan and field testing of the F2 population began in 1996. In field tests in the F2, F3, F4 and F5 generations, the selection criteria was a Tango style green leaf with a deeply dentate leaf with thick texture under long day length conditions. An additional selection criterion was bolting resistance under normal long day conditions in Holland summer production and tip burn resistance.

The seed of F3 and F5 were tested for the presence of Downy Mildew resistance factor DM 14 and was found to be non-segregating in these generations, thus homozygous. At harvest of F6, a mass was created and was given the designation 44-4703.

For more details on the breeding history of each cross Harvest mentioned above, please see document attached: *Genealogy of 44-4703*.

Multiplication / Uniformity / Stability

Seed from the F7, F8 and F9 generations has been trialed under commercial production sites in Europe. Seed from these generations has been used as stock seed for commercial seed production. Based on these trials 44-4703 appears stable and uniform through F9 generation.

Variants

No variants have been observed in 44-4703 in numerous field trials throughout Europe and the United States.

12/26/07
RAP

NIZ

Genology of 44-4703

956511		4694X4691		Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska)
9911576	956511 X 940213		F1	(4694 X 4691) X 940213=Monet
964332	991576	1927	F2	Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska) X Monet
972508	964332	3423	F3	Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska) X Monet
984568	972508	2452	F4	Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska) X Monet
991824	984568	3270	F5	Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska) X Monet
204659	991824	3195	F6	Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska) X Monet
213303	204659	6502	F7	Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska) X Monet
225136	213303	11638	F8	Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska) X Monet
233543	225136	3/13273	F9	Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska) X Monet
3/13273/ZT	233543	ZT	F10	Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska) X Monet
44-4703	3/13273/ZT		F11	Aida X F5(BDP X Musette)BDP X Pacific X Aida X I.Serriola(Kelvin(Mariska) X Monet

Exhibit B
Statement of Distinctness

Lettuce, ~~44-4703~~

'NIZ 44-4703'

RAD
12/27/07

Lettuce variety 44-4703 can be compared most closely to Tarragona (PVP #200000129 – pending). These two varieties are considered Tango type specialty leaf lettuce. However, 44-4703 has several differentiating attributes when varieties are grown under the same conditions:

- Lettuce variety 44-4703 differs in leaf color from Tarragona (Royal Horticultural Society colour chart); 44-4703 having a value of 134A, Tarragona a value of 135C)
- Lettuce variety 44-4703 differs in susceptibility to *Bremia lactucae* (Downy Mildew) from Tarragona. 44-4703 contains DM 14 gene which confers resistance to *Bremia lactucae* strain BL 5 and BL 16 while Tarragona lacks the DM 14 gene and is susceptible.

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**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

Exhibit C

**OBJECTIVE DESCRIPTION OF VARIETY
Lettuce (*Lactuca sativa* L.)**

NAME OF APPLICANT (S)

Vilmorin, Incorporated- Nickerson-Zwaan

ADDRESS (Street and No. or RD No., City, State, and Zip Code)

2551 North Dragoon
Tucson Arizona 85745

FOR OFFICIAL USE ONLY

PVPO NUMBER

200500192

VARIETY NAME

N12 44-4703

TEMPORARY OR EXPERIMENTAL DESIGNATION

PLEASE READ ALL INSTRUCTIONS CAREFULLY

Place the appropriate number that describes the varietal character in the boxes below. Place a zero in the first box (e.g.

0	9	9
---	---	---

 or

0	9
---	---

) when number is either 99 or less or 9 or less. Measured data should be the mean of an appropriate number (at least 20) of well space plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The Location of the Test Area is: Central California

Color System Used: Royal Horticultural Society colour chart

SPECIFIC VARIETIES USED FOR COMPARISON AS CHECK VARIETIES IN THIS APPLICATION: Use standard regional check varieties which are adapted to your area. One of the comparison varieties must be the most similar variety used in Exhibit B.

Application Variety (a1) 44-4703 Most Similar Variety (c1) Tarragona

Standard Regional Check Variety (c2) none in same classification

1. PLANT TYPE: (See List of Suggested Check Varieties on Page 8)

01 = Cutting/Leaf
02 = Butterhead
03 = Bibb

04 = Cos or Romaine
05 = Great Lakes Group
06 = Vanguard Group

07 = Salinas Group
08 = Eastern (Ithaca) Group
09 = Stem

10 = Latin
11 = Other (Specify) Tango type

(a1)

1	1
---	---

(c1)

1	1
---	---

(c2)

--	--

2. SEED:

(a1)

2

(c1)

2

(c2)

--

COLOR
1 = White (Silver Gray)
2 = Black (Grey Brown)
3 = Brown (Amber)

(a1)

1

(c1)

1

(c2)

--

LIGHT DORMANCY
1 = Light Required
2 = Light Not Required

(a1)

1

(c1)

1

(c2)

--

HEAT DORMANCY
1 = Susceptible
2 = Not Susceptible

3. COTYLEDON TO FOURTH LEAF STAGE: NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day-old seedling grown under optional conditions.

SHAPE OF COTYLEDONS: 1 = Broad

2 = Intermediate

3 = Spatulate

(a1)

2

(c1)

2

(c2)

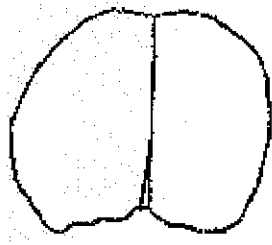
--

7

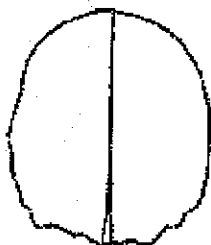
200500192

3. COTYLEDON TO FOURTH LEAF STAGE: (continued)

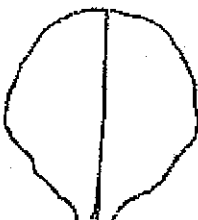
SHAPE OF FOURTH LEAF:

(a1) (c1) (c2) 

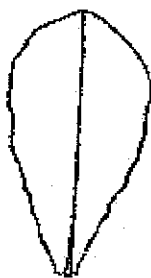
1.



2.



3.



4.



5.



6.

LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

(a1) (c1) (c2)

APICAL MARGIN:

1 = Entire

2 = Crenate/Gnawed

3 = Finely Dentate

4 = Moderately Dentate

5 = Coarsely Dentate

6 = Incised

7 = Lobed

8 = Other (Specify) _____

(a1) (c1) (c2)

BASAL MARGIN: (Use the Options for Apical Margin Above)

(a1) (c1) (c2)

UNDULATION:

1 = Flat

2 = Slight

3 = Medium

4 = Marked

(a1) (c1) (c2)

GREEN COLOR:

1 = Yellow Green

2 = Light Green

3 = Medium Green

4 = Dark Green

5 = Blue Green

6 = Silver Green

7 = Grey Green

(a1) (c1) (c2)

ANTHOCYANIN:

DISTRIBUTION:

1 = Absent

2 = Margin Only

3 = Spotted

4 = Throughout

5 = Other (Specify) _____

(a1) (c1) (c2)

CONCENTRATION:

1 = Light

2 = Moderate

3 = Intense

(a1) (c1) (c2)

ROLLING:

1 = Absent

2 = Present

(a1) (c1) (c2)

CUPPING:

1 = Uncupped

2 = Slight

3 = Markedly

(a1) (c1) (c2)

8

3. COTYLEDON TO FOURTH LEAF STAGE: (Continued)

REFLEXING:

1 = None

2 = Apical Margin

3 = Lateral Margins

(a1)

1

(c1)

1

(c2)

4. MATURE LEAVES (Observe Harvest-Mature Outer Leaves) NOTE: Provide color photo of a harvest-mature leaf which accurately shows color and margin characteristics.

MARGIN:

INCISION DEPTH:
(Deepest Penetration
of the Margin)

1 = Absent/Shallow (Dark Green Boston)

2 = Moderate (Vanguard)

3 = Deep (Great Lakes 659)

(a1)

3

(c1)

3

(c2)

INDENTATION:
(Finest Divisions of the
Margin)

1 = Entire (Dark Green Boston)

4 = Crenate (Vanguard)

2 = Shallowly Dentate (Great Lakes 65)

5 = Other (Specify) _____

3 = Deeply Dentate (Great Lakes 659)

(a1)

3

(c1)

3

(c2)

UNDULATIONS OF THE
APICAL MARGIN:1 = Absent/Slight (Dark Green Boston) 2 = Moderate (Vanguard)
3 = Strong (Great Lakes 659)

(a1)

2

(c1)

2

(c2)

GREEN COLOR:

1 = Very Light Green (Bibb)
2 = Light Green (Minetto)3 = Medium Green (Great Lakes)
4 = Dark Green (Vanguard)5 = Very Dark Green
6 = Other (Specify) _____

(a1)

2

(c1)

3

(c2)

ANTHOCYANIN:

DISTRIBUTION:

2 = Margin Only (Big Boston)

1 = Absent

4 = Throughout (Prize Head)

3 = Spotted (California Cream Butter) 5 = Other (Specify) _____

(a1)

1

(c1)

1

(c2)

CONCENTRATION:

1 = Light (Iceberg)

2 = Moderate (Prize Head)

3 = Intense (Ruby)

(a1)

(c1)

(c2)

SIZE:

1 = Small

2 = Medium

3 = Large

(a1)

1

(c1)

1

(c2)

GLOSSINESS:

1 = Dull (Vanguard)

2 = Moderate (Salinas)

3 = Glossy (Great Lakes)

(a1)

0 1

(c1)

0 1

(c2)

BLISTERING:
(Salinas)1 = Absent/Slight
(Vanguard)2 = Moderate
(Prize Head)

3 = Strong

(a1)

0 1

(c1)

0 1

(c2)

LEAF THICKNESS:

1 = Thin

2 = Intermediate

3 = Thick

(a1)

0 3

(c1)

0 3

(c2)

TRICHOMES:

1 = Absent (Smooth)

2 = Present (Spiny)

(a1)

0 1

(c1)

0 1

(c2)

5. PLANT:

SPREAD OF FRAME LEAVES:

(a1) cm(c1) cm(c2) cm

HEAD DIAMETER: (Market Trimmed with Single Cap Leaf)

(a1) cm(c1) cm(c2) cm

HEAD SHAPE:

1 = Flattened

2 = Slightly Flattened

3 = Spherical

4 = Elongate

5 = Non-Heading

6 = Other (Specify)

(a1) (c1) (c2)

HEAD SIZE CLASS:

1 = Small

2 = Medium

3 = Large

(a1) (c1) (c2)

HEAD PER CARTON:

(a1) (c1) (c2)

HEAD WEIGHT:

(a1) g.(c1) g.(c2) g.

HEAD FIRMNESS:

1 = Loose

2 = Moderate

3 = Firm

4 = Very Firm

(a1) (c1) (c2)

6. BUTT:

SHAPE:

1 = Slightly Concave

2 = Flat

3 = Rounded

(a1) (c1) (c2)

MIDRIB:

1 = Flattened (Salinas)

2 = Moderately Raised

3 = Prominently Raised (Great Lakes 659)

(a1) (c1) (c2)

7. CORE:

DIAMETER AT BASE OF HEAD:

(a1) mm(c1) mm(c2) mm

RATIO OF HEAD DIAMETER/CORE DIAMETER:

(a1) (c1) (c2)

CORE HEIGHT FROM BASE OF HEAD TO APEX:

(a1) mm(c1) mm(c2) mm8. BOLTING: (Give First Water Date: April 15, 2004)

NOTE: First water date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.

NUMBER OF DAYS FROM FIRST WATER DATE TO SEED STALK EMERGENCE: (Summer Conditions)

(a1) (c1) (c2)

8. BOLTING:

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BOLTING CLASS:

1 = Very Slow
2 = Slow3 = Medium
4 = Rapid

5 = Very Rapid

(a1)

3

(c1)

5

(c2)

HEIGHT OF MATURE SEED STALK:

(a1)

0 6 1

cm

(c1)

0 6 2

cm

(c2)

cm

SPREAD OF BOLTER PLANT: (At Widest Point)

(a1)

4 5

cm

(c1)

4 3

cm

(c2)

cm

BOLTER LEAVES:

1 = Straight

2 = Curved

(a1)

2

(c1)

2

(c2)

MARGIN:

1 = Entire

2 = Dentate

(a1)

2

(c1)

2

(c2)

COLOR:

1 = Light Green

2 = Medium Green

3 = Dark Green

(a1)

2

(c1)

2

(c2)

BOLTER HABIT:

TERMINAL INFLORESCENCE:

1 = Absent

2 = Present

(a1)

2

(c1)

2

(c2)

LATERAL SHOOTS:

1 = Absent

2 = Present

(a1)

1

(c1)

1

(c2)

BASAL SIDE SHOOTS:

1 = Absent

2 = Present

(a1)

1

(c1)

1

(c2)

9. MATURITY: (Earliness of Harvest-mature Head Formation) NOTE: Complete this Section for at Least One Season.

SEASON	APPLICATION VARIETY No. of Days ¹			MOST SIMILAR VARIETY No. of Days ¹			STANDARD REGIONAL CHECK VARIETY No. of Days ¹		
Spring									
Summer									
Fall	28	32							
Winter									

Give Planting Date(s) and Location(s)

Spring:

Summer:

Fall: September 25, 2004; King City, California. September 24, 2004; San Juan Bautista, California.

Winter:

¹ First Water Date to Harvest.

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10. ADAPTATION:

PRIMARY REGIONS OF ADAPTATION (Tested and Proven Adapted): (0 = Not Tested 1 = Not Adapted 2 = Adapted)

<input type="text" value="2"/> Southwest (CA and/or AZ Desert)	<input type="text" value="2"/> West Coast	<input type="text" value="0"/> Northeast
<input type="text" value="0"/> North Central	<input type="text" value="0"/> Southeast	<input type="text" value="0"/> Other (Specify) _____

SEASON:

<input type="text" value="0"/> Spring (Area _____)	<input type="text" value="2"/> Fall (Central Coast California)
<input type="text" value="0"/> Summer (Area _____)	<input type="text" value="0"/> Winter (Area _____)

<input type="text" value="0"/> GREENHOUSE:	0 = Not Tested	1 = Not Adapted	2 = Adapted
--	----------------	-----------------	-------------

<input type="text" value="1"/> SOIL TYPE:	1 = Mineral	2 = Organic	3 = Both
---	-------------	-------------	----------

11. VIRAL DISEASES:

1 = Immune 3 = Resistant 5 = Moderately Resistant/Moderately Susceptible 7 = Susceptible 9 = Highly Susceptible

Big Vein	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Lettuce Mosaic	(a1)	<input type="text" value="7"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Cucumber Mosaic	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Tomato Bushy Stunt, Cause of Dieback	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Turnip Mosaic	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Beet Western Yellows	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Lettuce Infectious Yellows	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Other (Specify) _____	(a1)	<input type="text"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>

12. FUNGAL/BACTERIAL DISEASES:

1 = Immune 3 = Resistant 5 = Moderately Resistant/Moderately Susceptible 7 = Susceptible 9 = Highly Susceptible

Corky Root Rot Races: _____	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Downy Mildew Races: _____ BL 5, BL 16 _____	(a1)	<input type="text" value="3"/>	(c1)	<input type="text" value="7"/>	(c2)	<input type="text"/>
Powdery Mildew	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Sclerotinia Drop	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Bacterial Soft Rot (<i>Pseudomonas</i> spp. and others)	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Botrytis (Grey Mold)	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Verticillium Wilt	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Bacterial Leaf Spot	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Anthrachnose	(a1)	<input type="text" value="0"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>
Other (Specify) _____	(a1)	<input type="text"/>	(c1)	<input type="text"/>	(c2)	<input type="text"/>

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13. INSECTS:

1 = Immune

3 = Resistant

5 = Moderately Resistant/Moderately Susceptible

7 = Susceptible

9 = Highly Susceptible

Cabbage Loopers

(a1) (c1) (c2)

Root Aphids

(a1) (c1) (c2)

Green Peach Aphid

(a1) (c1) (c2)

Lettuce Aphid

(a1) (c1) (c2)

Pea Leafminer

(a1) (c1) (c2) Other (Specify) (c1) (c2) **14. PHYSIOLOGICAL STRESSES:**

1 = Immune

3 = Resistant

5 = Moderately Resistant/Moderately Susceptible

7 = Susceptible

9 = Highly Susceptible

Tipburn

(a1) (c1) (c2)

Heat

(a1) (c1) (c2)

Drought

(a1) (c1) (c2)

Cold

(a1) (c1) (c2)

Salt

(a1) (c1) (c2)

Brown Rib

(a1) (c1) (c2)

(Rib Discoloration, Rib Blight)

Other (Specify) (c1) (c2) **15. POST HARVEST STRESS:**

1 = Immune

3 = Resistant

5 = Moderately Resistant/Moderately Susceptible

7 = Susceptible

9 = Highly Susceptible

Pink Rib

(a1) (c1) (c2)

Russet Spotting

(a1) (c1) (c2)

Rusty Brown Discoloration

(a1) (c1) (c2)

Internal Rib Necrosis

(a1) (c1) (c2)

(Blackheart, Grey Rib, Grey Streak)

Brown Stain

(a1) (c1) (c2) **16. BIOCHEMICAL OR ELECTROPHORETIC MARKERS:****17. COMMENTS:**

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SUGGESTED CHECK VARIETIES

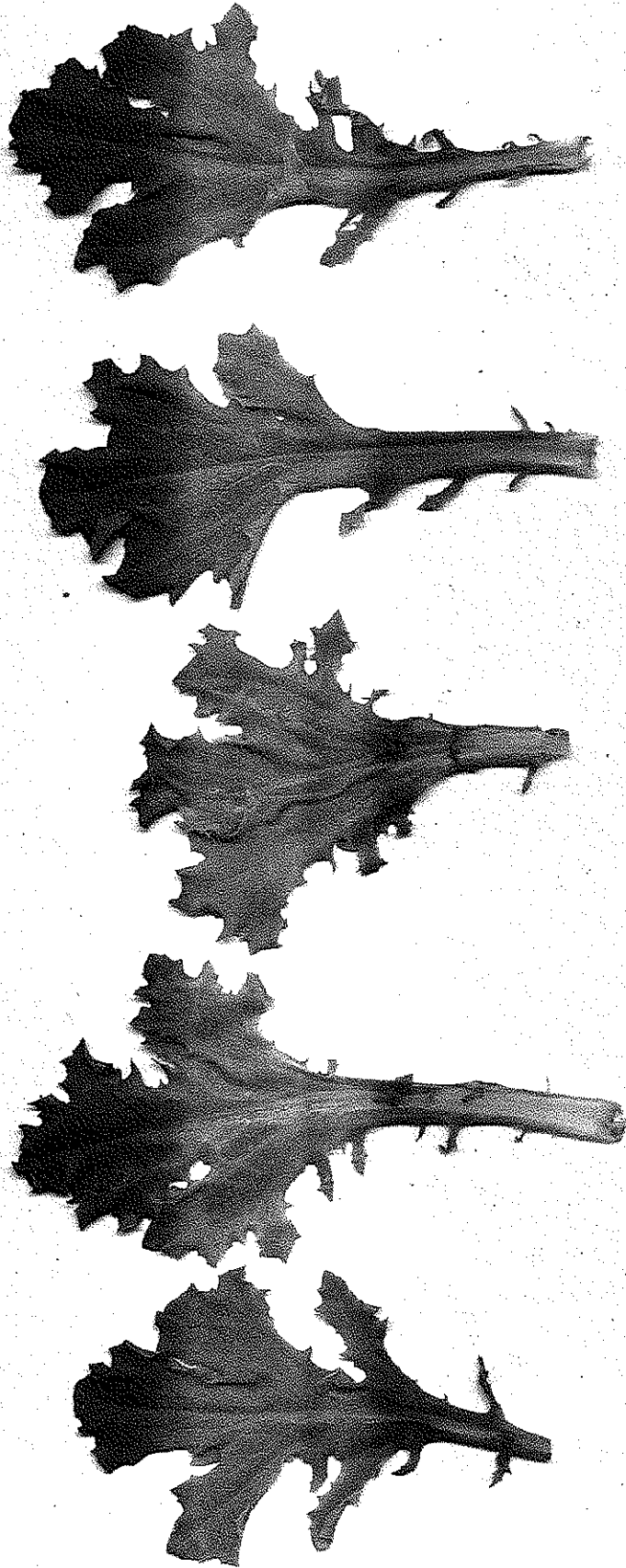
200500192

<u>TYPE</u>		<u>CHECK VARIETY</u>
1	Cutting/Leaf	Waldmann's Green
2	Butterhead	Dark Green Boston
3	Bibb	Bibb
4	Cos or Romain	Parris Island
5	Great Lakes Group	Great Lakes 659-700
6	Vanguard Group	Vanguard
7	Salinas Group	Salinas
8	Eastern Group	Ithaca
9	Stem	Celtuce
10	Latin	Little Gem

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- Michelmore, R.W., J. M. Norwood, D.S. Ingram, I.R. Crute and P. Nicholson. 1984. *The inheritance of virulence in Bremia lactucae to match resistance factors 3, 4, 5, 6, 8, 9, 10, and 11 in lettuce (Lactuca sativa)*, Plant Pathology 32:176-177.
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- Rodenburg, C.M., et al., 1960. *Varieties of Lettuce. An International Monograph* Instituut voor de Verdeling van Tuinbouwgewassen (IVT), Wageningen, NL.
- Ryder, E.J., 1999, *Lettuce, Endive, and Chicory*, CABI Publications, Wallingford, UK.

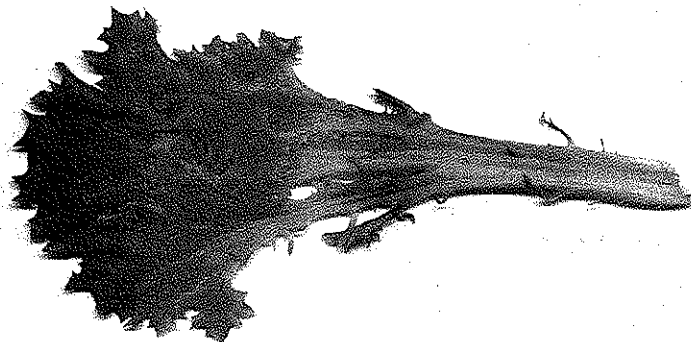
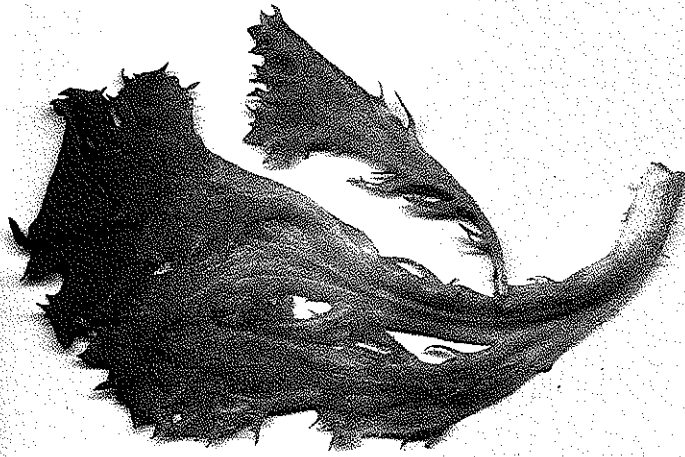
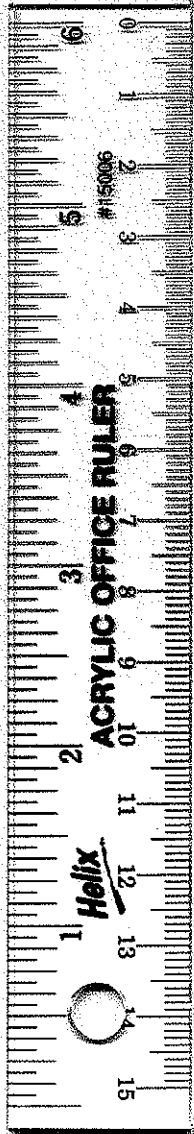
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APR 12/20/07

niz

44-4703



201076121000

44-4703

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

RAO 7/31/07

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) NICKERSON-ZWAAN	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER NIZ 44-4703	3. VARIETY NAME NIZ 44-4703 44-4703
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) PO BOX 28 4920 AA MADE THE NETHERLANDS	5. TELEPHONE (Include area code) 31.162.690.945	6. FAX (Include area code) 31.162.680.970
7. PVPO NUMBER 200500192		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.



YES



NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.



YES



NO

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10. Is the applicant the original owner?



YES



NO

If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?



YES



NO

If no, give name of country

THE NETHERLANDS

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?



YES



NO

If no, give name of country

THE NETHERLANDS

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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